EPA's Engagement on Binational Wastewater Issues Along the U.S.-Mexico Border

EPA became the U.S. national coordinator on environmental issues along the U.S.-Mexico border with the signing of the La Paz Agreement by Presidents Reagan and De La Madrid in 1983. Contamination of the Tijuana River by raw sewage from Tijuana, Mexico, was a primary driver for the Agreement, and the first annex to the Agreement addressed the sanitation problem of the Tijuana River. A series of binational plans have been signed that provide a framework for binational cooperation to address border environmental issues, the most current one is known as Border 2020. In addition, EPA has supported a border water infrastructure program to fund water infrastructure on both sides of the border to benefit water quality in the U.S.

Tijuana River

The Tijuana River flows through central Tijuana before entering the U.S. in San Diego County and reaching the Pacific Ocean through the Tijuana River Estuary.

Deficiencies in Tijuana's sewage collection system periodically cause spills of raw sewage to the Tijuana River, with resulting impacts to the U.S. In addition, not all of Tijuana is sewered, as haphazard development has led to irregular homes being built on steep hillsides, which results in raw sewage entering the binational watershed. Pathogens in sewage pose a threat to public health and the environment, which can pose significant economic impacts. Border patrol agents are exposed to raw sewage, as are surfers and beachgoers. U.S. beaches near Imperial Beach are closed when sewage contaminates the river, curtailing important sources of revenue for coastal communities in San Diego County. Heavy rainfall in January and February 2017 resulted in the collapse of a major sewage collector along the Tijuana River, resulting in the closure of beaches in Imperial Beach and as far north as Coronado, California.

Trash and sediment are also washed into the U.S. when it rains, adversely affecting communities on the U.S. side. Per Mexico's Institute of Statistics and Geography (INEGI), of the 2000 tons of trash produced per day in Tijuana, 15% is not collected. Trash and large quantities of sediment from eroding hillsides are carried across the border and deposited in the Tijuana River Valley of South San Diego County, burying native vegetation and exacerbating flooding.

Border Water Infrastructure Program

Beginning in late 1980's EPA has been investing in wastewater infrastructure improvements in Tijuana, to reduce impacts to U.S. communities. With $240 million in funding from EPA, the International Boundary and Water Commission constructed an international wastewater treatment plant and an adjoining ocean outfall in San Diego, adjacent to the U.S.-Mexico border. The plant treats over 25 million gallons per day (mgd) of sewage from Tijuana that had historically contaminated the beaches and estuary within the San Diego/Tijuana area. The International Boundary and Water Commission recently upgraded this facility to treat to secondary levels to comply with the Clean Water Act.

Constructing, operating and maintaining treatment plants in the U.S. to treat sewage from Mexico is expensive and does not address the source of the problem. As such, starting in the mid 1990's, EPA began funding wastewater infrastructure on the Mexican side of the border, in addition to the U.S. Appropriations started at $100 million per year and have decreased over time to 5-10 million per year the last few years. All projects in Mexico must result in improved water quality in the U.S. and must

have at least a 50% funding match from Mexico. The North American Development Bank and the Border Environment Cooperation Commission administer EPA's funding for this program.

EPA has invested nearly $50 million on wastewater collection projects in Tijuana over the last two decades. A recently-completed project funded by EPA rehabilitated over 6 miles of main collectors and sub-collectors, constructed 9 new manholes, rehabilitated 30 existing manholes, expanded wastewater collection service to 525 residences and effectively reduced an estimated 0.1 mgd of untreated wastewater discharges to open drains. EPA is developing an additional project that would replace 4 miles of deteriorated wastewater collector in Tijuana.

Strategic Plan for Tijuana Wastewater Infrastructure

The North American Development Bank, working with state and federal officials in Mexico, developed a strategic plan for wastewater infrastructure in the Tijuana area. The plan contemplates replacement of Tijuana's largest existing treatment plant, which has been working poorly for many years, improvements to the collection system, and in the longer-term, construction of facilities to reuse 27 million gallons of wastewater per day. Funding for design of the treatment plant is secured. Funding for the remainder of the plan (totaling about $400 million) depends on annual rate increases of 11% (in real terms) in 2017-2019 and a substantial increase in the availability of federal grants.

Border 2020

The Border 2020 program is the latest binational coordination framework adopted under the La Paz Agreement. Through this program, EPA has provided over $1.5 million in funding since 2005 for pilot projects and trash studies to help reduce pollution in the Tijuana watershed. These projects have leveraged over $800,000 in funding from Mexico's Secretariat of Environment and Natural Resources (SEMARNAT).

Under a 5-year grant from EPA that recently ended, the Southwest Wetlands Interpretive Association constructed sediment-control and tire-reuse demonstration projects in Tijuana, trained hundreds of volunteers via 106 watershed improvement projects, removed 57,000 pounds of trash and over 16,000 tires from the estuary, and planted 10,000 containers of native plants.

EPA is currently partnering with the U.S. Department of Agriculture, San Diego State University, and Ensenada's Center for Investigative Science on the development of a sediment model for a sub-basin of the Tijuana River watershed. The model is a critical first step to prioritizing and developing sediment control projects.